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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,162	09/21/2001	Takahiko Sawada	TOS-146-USA	3033

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EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 06/19/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/856,162

Applicant(s)

SAWADA ET AL.

Examiner

Melanie D. Bissett

Art Unit

1711

-- The MAILING DATE f this communication appears on the c ver sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,11-13,19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-4,7-10 and 14-18 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachm nt(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1711

1. The rejections based on 35 USC 112 have been withdrawn based on the applicant's amendments. The rejections based on 35 USC 102 and 103 have been maintained and altered.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nippon Zeon.
4. From a prior Office action:
 8. Nippon Zeon teaches a sheet of thermoplastic saturated norbornene-type resin laminated onto a PVA polarizer (abstract), where materials including two-component polyurethane adhesives are used to adhere the norbornene sheet to the polarizer [0045].
5. Such a laminate would have the structure of the applicant's claim 2, also anticipating claim 1.
6. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinohara et al.
7. From a prior Office action:
 10. Shinohara discloses liquid crystal display panels, where at least one layer contains a norbornene-type resin (abstract). Example 1 shows a film made by bonding two norbornene-type resin layers by a urethane adhesive, where a PVA polarizer is attached to the film. Also, example 3 shows a norbornene-type polymer film laminated with a urethane adhesive and a polarized vinyl alcohol copolymer membrane. Another example shows laminate of a norbornene-type resin protective film, a PVA polarizer film, and an intermediate acrylic adhesive (Reference Example 2). The specification teaches that polyurethane resin solutions are equally suitable adhesives in the invention (col. 9 lines 11-22).

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 3-4, 7-10, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nippon Zeon in view of Oertel.

10. From a prior Office action:

13. Nippon Zeon applies as above, noting the use of two-component urethane adhesives but failing to discuss the isocyanates or solvents used. Oertel teaches that modified isocyanates, such as those prepolymers formed by reacting an isocyanate with a polyol, are useful in reaction-type adhesives, where PI 1 has light color and low staining under light (p. 596). PI 1 has been noted as a polyisocyanate especially suitable for two-component reaction adhesives, having high reactivity at low temperatures (p. 597). Therefore, it is the examiner's position that it would have been prima facie obvious to use a modified polyisocyanate such as PI 1 in the polyurethane adhesives of Nippon Zeon's invention to provide two-component adhesives having low reaction temperature and low coloration.

14. Oertel also teaches that dispersion adhesives based on aqueous polyurethane dispersions have more flexibility of use and cause less impact on the environment than organic solvent-based adhesives (p. 607). Wet bonding is possible with aqueous dispersions (11.6.3), and the adhesion to polar substrates is especially good (11.6.4). Thus, it is the examiner's position that it would have been prima facie obvious to choose an aqueous polyurethane dispersion adhesive for Nippon Zeon's invention to provide an environmentally-conscious adhesive having improved adhesion to polar substrates.

11. Additionally, Oertel teaches that of the commonly used polyols, polyester polyols impart improved adhesion (11.3.2). Therefore, it is the examiner's position that it would have been prima facie obvious to use polyester polyols as a main ingredient in the two-part adhesives to further improve adhesion of the norbornene film to the polarizer.

Art Unit: 1711

12. Claims 3-4, 7-10, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara et al. in view of Oertel.

13. From a prior Office action:

16. Shinohara applies as above, noting the use of urethane adhesives but failing to discuss the isocyanates or solvents used. Oertel teaches that modified isocyanates, such as those prepolymers formed by reacting an isocyanate with a polyol, are useful in reaction-type adhesives, where PI 1 has light color and low staining under light (p. 596). PI 1 has been noted as a polyisocyanate especially suitable for two-component reaction adhesives, having high reactivity at low temperatures (p. 597). Therefore, it is the examiner's position that it would have been prima facie obvious to use a two-component adhesive containing a modified polyisocyanate such as PI 1 in the polyurethane adhesives of Shinohara's invention to provide adhesives having low reaction temperature and low coloration.

17. Oertel also teaches that dispersion adhesives based on aqueous polyurethane dispersions have more flexibility of use and cause less impact on the environment than organic solvent-based adhesives (p. 607). Wet bonding is possible with aqueous dispersions (11.6.3), and the adhesion to polar substrates is especially good (11.6.4). Thus, it is the examiner's position that it would have been prima facie obvious to choose an aqueous polyurethane dispersion adhesive for Shinohara's invention to provide an environmentally-conscious adhesive having improved adhesion to polar substrates.

14. Additionally, Oertel teaches that of the commonly used polyols, polyester polyols impart improved adhesion (11.3.2). Therefore, it is the examiner's position that it would have been prima facie obvious to use polyester polyols as a main ingredient in the two-part adhesives to further improve adhesion of the norbornene film to the polarizer.

Allowable Subject Matter

15. Claims 5, 11-13, and 19-20 are allowed.

16. The following is a statement of reasons for the indication of allowable subject matter:

17. The closest prior art, Shinohara et al. (USPN 5,516,456-A), discloses liquid crystal display panels, where at least one layer contains a norbornene-type resin. The resins are bonded to PVA polarizers by urethane adhesives. However, the reference does not mention an additional PVA adhesive used to bond the polarizer to the protection film. The reference also does not mention the applicant's layer structure of claim 19. It is the examiner's position that the presence of the additional PVA layer in the applicant's claimed polarizing plate protection film laminate would provide a novel, unobvious step over the prior art. It is also the examiner's position that the applicant's claimed layer structure of claim 19 would provide a novel, unobvious step over the prior art.

Response to Arguments

18. Regarding the applicant's arguments that Nippon Zeon does not disclose a protection film consisting of the two layers, it is noted that the reference teaches including adhesive layers and norbornene-type sheet layers on a polarizing plate. Thus, a norbornene-type sheet/adhesive film is formed on the polarizing film. Although the applicant argues that the adhesive may not form a discrete, continuous layer, it is the examiner's position that one of ordinary skill in the art would recognize that such a continuous layer would be used for adhering a polymeric sheet to a polarizer film. Also, the claims do not specify discrete, continuous layers. It is the examiner's position that the layers of adhesive and norbornene resin on the polarizing film anticipate the applicant's claimed protection film. Note that the claims do not exclude a polarizer layer

or otherwise call for a film independent of other films or substrates. Note also that the claims do not specify the polyurethane resin as a film itself, although it is the examiner's position that a polymeric adhesive layer would inherently form a film between the polarizing film and the norbornene layer.

19. In response to the applicant's argument that Nippon Zeon does not disclose polyester resins, it is noted that Oertel has been provided to show motivation for using polyester polyols as a main component of the polyurethane resin. Likewise, Oertel has been provided to show motivation for the limitations of claims 7-8.

20. Regarding the applicant's argument that Shinohara does not teach norbornene-type resins, it is noted that Synthetic Example 1, used in Reference Example 1, includes a monomer listed as a norbornene derivative (col. 4 lines 7-34). Thus, the polymerized norbornene derivative fits the applicant's "norbornene-type resin layer".

21. In response to the applicant's argument that Reference Example 2 teaches the use of an acrylic resin adhesive but does not teach equivalency of a polyurethane resin layer, it is the examiner's position that the adhesives listed as equivalents in col. 9 would form a film with the norbornene-type layer on the polarizer. It is the examiner's position that the layers of adhesive and norbornene resin on the polarizing film anticipate the applicant's claimed protection film. The layers together would form a film on the polarizer, since the protective film is itself a film. Note that the claims do not exclude a polarizer layer or otherwise call for a film independent of other films or substrates. Note also that the claims do not specify the polyurethane resin as a film

Art Unit: 1711

itself, although it is the examiner's position that a polymeric adhesive layer would inherently form a film between the polarizing film and the norbornene layer.

22. Oertel has been provided to show motivation for "the main agent consisting of polyester resin", "water-type" adhesives, and "wet lamination".

23. Regarding the applicant's showing that acrylic and polyurethane adhesives are not equivalent, it is noted that the primary reference shows polyurethane resin solution adhesives as equally useful adhesives to the exemplified acrylic adhesives (col. 9 lines 11-21). Thus, one skilled in the art reading the reference would recognize that polyurethane resin solution adhesives could be used in the invention. Although the applicants have not found the equivalence of polyurethane and polyacrylic adhesives to be consistent with their findings, it is unavoidable that one skilled in the art would know from reading the reference to use polyurethane resin solutions for adhering a protective film to a polarizer.

24. In response to the applicant's arguments of unexpected results, it is first noted that unexpected results may not be used to overcome rejections based on 35 USC 102. It has been the examiner's position, regarding Reference Example 2, that the reference as a whole teaches using polyurethane resin solution adhesives for adhering polarizers to protective films. Thus, the applicant's unexpected results drawn to using a polyurethane resin over a polyacrylic resin are irrelevant. Regarding the applicant's claims limiting the polyurethane adhesive to contain polyester resins as a main component, the unexpected results do not represent the closest prior art. This is

Art Unit: 1711

because the applicant has not shown a comparison of polyurethane adhesives made without polyester resin as a main component.

25. Regarding the applicant's argument that the references, Nippon Zeon and Shinohara, do not exemplify the use of polyurethane adhesives, it is first noted that the references as a whole teach the use of polyurethane adhesives in the invention.

Regardless, the examiner has pointed to two other examples in Shinohara showing the use of polyurethane adhesives. Thus, it is clear from both references that the use of polyurethane adhesives is encompassed with the inventions.

26. In response to the applicant's arguments that the secondary reference, Oertel, does not cure the insufficiencies of Nippon Zeon or Shinohara, it is the examiner's position that the primary references teach the limitations referred to by the applicants. The Oertel reference has been used to teach motivation for using conventional polyurethane components including polyester polyols as a main component of the polyurethane resin and specific isocyanates. Also, Oertel teaches using wet or aqueous adhesives.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

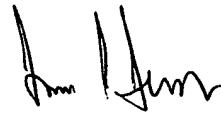
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

Art Unit: 1711

872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb
June 16, 2003



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700